

BOOK REVIEWS

Olethreutine moths of Australia (Lepidoptera: Tortricidae) by Marianne Horak, with contributions by Furumi Komai, 2006

Monographs on Australian Lepidoptera, volume 10. CSIRO Publishing. 522 pages. AU\$ 160.

The family Tortricidae is one of the most diverse and economically relevant groups of microlepidoptera. The volume 10 of the prestigious series 'Insects of Australia' treats one of its main subfamilies: Olethreutinae.

The structure of the book is similar to previous issues of the series. After the introduction and a short but instructive chapter on material and methods, the book includes chapters devoted to phylogeny, morphology, biology, diversity and distribution. The core of the book—more than 400 pages—is devoted to the taxonomic revision of genera and species of the Australian fauna.

Even those familiar with the Lepidoptera will find the chapter on morphology extremely useful with accurately detailed information on the characters. The treatment of the characters is absolutely consistent throughout the book.

The phylogenetic analysis is divided into two parts as the matrix is presented in an appendix at the end of the book, which does not represent any problem for the reader. Prudently the author presents the cladogram as insufficiently conclusive to suggest changes to the higher classification of the group. The intriguing results deserve, however, some attention. The genus *Gatesclarkeana* and allies are returned to Olethreutini s. str. and not as a separate tribe Gatesclarkeanini. The tribe Bactrini is placed as a derived group and not as a rather primitive one. In addition, Bactrini—that is treated including *Endothenia*—represents a paraphyletic group with respect to *Lobesia*. This resurrects the classical discussion about the close relationship between *Bactra*, *Endothenia* and *Lobesia*. The definition of Enarmoniini (= Ancylini) is refined with new Australian material. This tribe is spread in the cladogram as polyphyletic, although the core of the group represents a consistent monophyletic clade in which *Ancylis* is placed in a relatively derived position. Thus Enarmoniini s. str. fits into Eucosmini that becomes a paraphyletic group. The monophyly of Grapholitini is not questioned and the whole tribe is represented in the analysis by the genus *Grapholita*. Although the reconstruction is based on the Australian fauna, this is one of the most challenging

phylogenetic analysis ever attempted for the subfamily and will be a reference for future work, specially in the molecular scenario.

A key to the Australian genera of Olethreutinae introduces the taxonomic part in which every genus is reviewed following a research paper structure. The volume reviews the 90 genera occurring in Australia, including twelve new genera. The specific treatment does not pretend to be exhaustive, but about 250 named and 200 unnamed species are treated, with 41 new combinations proposed. The natural connections between the Australian and the Oriental faunas are not overlooked, and 80 new combinations for non Australian species are proposed. The Grapholitini chapter is coauthored by Furumi Komai, the leading authority in the tribe, and Marianne Horak. This does not represent any detectable change in style or structure.

The book is profusely illustrated with nearly a thousand photographs including, when available, male and female genitalia, sclerite details, scanning electron microscope slides of the head, and wing pattern. Perhaps the inclusion of color printing for the wing patterns would have improved the detail but this would have demand to separate the wing patterns in plates and the option has been to include all the illustrations together within the text.

Few people are involved today in producing fine, detailed monographs. Although such work will ensure the availability of a comprehensive taxonomic knowledge for future generations, in a scientific scenario where rapid-impact outputs are given priority, broad revisionary work is vanishing. However, Marianne Horak's option was to devote an effort of nearly two decades to produce a single monograph of a difficult and puzzling taxonomic area full of obscure taxonomic identities and complex phylogenetic relationships. The challenge has been enormous. While this is a geographically restricted project, the fauna of Australia includes so many primitive and endemic taxa that the book must be regarded as a standard reference for anyone interested in tortricid research. Beyond this, the perfectionism that permeates the whole work places

it as a role model for systematic Lepidoptera research in all time and place.

Marianne Horak received the first J. O. Westwood Medal for excellence in insect taxonomy for her work with Olethreutine Moths of Australia. The Westwood Medal is a joint biennial award launched by the Royal Entomological Society and the Entomology Department of the Natural History Museum for the

best comprehensive taxonomic work published on a group of insects or related arthropods. Little can be added to this more than deserved award except congratulate the author and the publisher for this outstanding work.

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A guide to Australian moths by Paul Zborowski and Ted Edwards, 2007

Paperback, 224 pages, ca. 400 color photos. CSIRO Publishing, Collingwood, Vic, Australia. AU\$39.95.

I'm mad as hell and won't take it any longer has become a common refrain in our ever more stressful world. Our participation in biodiversity studies seems to be slowly declining along with biodiversity itself. While the widespread use of lepidopterous imagery, especially in advertising and branding goes forward, studies do not. In fact the use of bioscience grows as PR and marketing tools. The public becomes a receptacle for spectacle. As purveyors of biodiversity we have been largely ignored in the scheme of things. We don't even know how many species of insects there are in greater New York, much less how they interrelate and respond to our world of here and now. The billions spent on a few spectacular events like finding ice on Mars or orbiting telescopes, although valid, are misplaced by cost benefit while voices in (and for) the wilderness, as E. O. Wilson, are barely audible. Of course we could start on the value of environment impact statements and what we aren't learning, but that will be a diatribe for another day.

So here comes as marvelous and well-produced book radiating the grandeur of moth variation in its overview of the moth fauna of Australia. Brilliantly illustrated, it should peak the curiosity of anyone with concerns for understanding life and the world around us. Not only the beauty of the creatures shown, but of their relationships both structural and biological that are succinctly described. I learned a lot from this piece from its elementary introduction on biology and role of moths to the descriptive section. The work is especially well organized and well written. The authors clearly were enthusiastic and involved.

There are about 20,000 known, with a projected 10,000 more unknown, species of moths in Australia. The 32 page introductory section gives and answers 14 basic questions on moth biology, covering their evolution and ecology, but framed in pragmatism for the lay reader. What use are moths, why do they

have so many shapes and colors, and of what use are they? The question "have any moths become extinct," leads off with the seminal answer that "No Australian moth is considered extinct but this is because so little is known about the distribution, ecology and identification of moths."

Next comes the heft of the volume, leading off with a brief description of morphology and how to identify the moth families. There are 85 families in Australia, out of some 140 globally. Some 69 families are treated, the missing ones being rarely seen and mostly tiny. The families are arranged from primitive to the highly derived, starting with the Micropterigidae and ending with the Noctuidae. The distinguishing characters of each family are given, having been chosen to be observable with a magnifier. All specimens are shown in color, alive in a natural setting with the images truly beautiful. The write-ups cover the important biological features of each family with number of known species in the fauna and globally cited. There are 13 brief "boxes" expanding on remarkable stories in selected groups, as the Bogong moth (an aboriginal food but with other features related to its abundance), witjubi grub (delicious), and pollination (remember the bees are disappearing).

You don't need to live in Australia to appreciate the book. But for the naturalist one surely wants to go and see some of the animals' figures and discussed. Although the work is not a scientific treatise, I not only hope that more works of this caliber are forthcoming for other regions, but that many, many more works of the kind can be generated for all groups of living things. And that finally public awareness can begin to focus on the vast diversity that very few humans seem to see. Before we lose it with either a whimper or a bang.

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